

REMARKS

Applicants thank the Examiner for his careful examination of the present application. By way of summary, claims 1-3, 7, 10, 13, 16, 19, 22 and 25 were pending in this application. Various claims have been amended in this Response. Accordingly, the above claims remain pending for consideration.

Information Disclosure Statement

An Information Disclosure Statement and accompanying Form PTO-1449 citing a number of references was filed on May 11, 2007, many of which the Examiner has initialed. It is noted however that references BG, BH, BI and BJ on sheet 2 of the submission (attached) were not initialed, and therefore it is respectfully requested that the Examiner consider these references and provide an initialed copy with the next communication from the Patent Office.

The Office Action also included a request that the Applicants identify why the cited references are pertinent. Applicants submit that the relevance of these references was indicated in the Information Disclosure Statement originally submitted with these references, in which Applicants stated that: “[t]he Information Disclosure Statement is provided because of the Examiner’s fourteen-way double patenting rejection, with which Applicants do not agree . . . and believe is improper. However, if the Examiner believes that the claims of the related cases are sufficiently similar to warrant a double patenting rejection, the art from the related co-pending applications might be considered relevant by the Examiner of the present application. Accordingly, the art of record, in the above-identified co-pending applications, if not already disclosed, are disclosed out of an abundance of caution.”

Rejection of Claims 1-3, 7, 10, 13, 16, 19, 22 and 25 Under 35 U.S.C. § 103(a)

The Office Action rejected claims 1-3, 7, 10, 13, 16, 19, 22 and 25 under 35 U.S.C. § 103 as being unpatentable over U.S. Patent Application Publication No. 2001/021160, to Shuy *et al.* (“Shuy”), in view of U.S. Patent Application Publication No. 2002/0168587, to Sakaue *et al.* (“Sakaue”), and U.S. Patent No. 4,682,321, issued to Takaoka *et al.* (“Takaoka”).

Applicants respectfully traverse this rejection because Shuy, alone or in combination with Sakaue and Takaoka, fails to teach or suggest all of the elements of the claims, as shown in detail below. *See* M.P.E.P. § 2143 (stating that in order to establish a *prima facie* case of obviousness for a claim, the prior art references must teach or suggest all the claim limitations).

First Dielectric Film

It is respectfully submitted that claim 1 is allowable for at least the reason that the proposed combination of Shuy, Sakaue and Takaoka does not disclose, teach, or suggest “a first dielectric film located on a side of the light incidence plane with respect to the at least one recording film and containing an oxide as a primary component and added with nitrogen.” In particular, Sakaue, relied upon in the Office Action to supply this teaching, does not disclose, teach, or suggest such a first dielectric film.

Instead, Sakaue discloses a very different arrangement for its dielectric layers. In working example 1 and Figure 1 of Sakaue, dielectric layers 12, 16 are formed between a disk substrate 11 (which defines the light incidence plane) and a reflective layer 17. *See* Sakaue, paragraphs [0054-0062]. The first dielectric layer 12 is formed between the light incidence plane and a recording layer 14 and is a ZnS-SiO₂ film. Paragraph [0059]. Sakaue then discloses that “an oxide or nitrooxide of Ta [may be used] for the second dielectric layer,” formed between the recording layer 14 and the reflective layer 17. Paragraph [0061]. Sakaue teaches that this particular location for the nitrooxide of Ta, *inter alia*, helps to address corrosion of the reflective layer 17. *See* paragraphs [0037], and [0112-0114].

The first dielectric film of claim 1 (located between the light incidence plane and the at least one recording film) contains oxide as a primary component and is added with nitrogen. The ZnS-SiO₂ film of Sakaue located between the light incidence plane and the recording layer 14 does not satisfy these limitations. Meanwhile, the nitrooxide of Ta of Sakaue is formed not between the light incidence plane and the recording layer 14, but between the recording layer 14 and the reflective layer 17. Thus, Sakaue does not disclose, teach or suggest the use of “a first dielectric film located on a side of the light incidence plane with respect to the

at least one recording film and containing an oxide as a primary component and added with nitrogen.”

Moreover, moving the nitrooxide of Ta taught by Sakaue away from the reflective layer 17 would render this dielectric layer unsatisfactory for its intended purpose of preventing corrosion of the reflective layer 17. Therefore, claim 1 cannot be rendered obvious in view of Sakaue. *See* M.P.E.P. § 2143.01 (“If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification.”).

Since Shuy and Takaoka also fail to disclose, teach, or suggest the claimed first dielectric film, it is respectfully submitted that the rejection of claim 1 over Shuy in view of Sakaue and Takaoka is improper.

Second Dielectric Film

Claim 1 is also allowable for at least the additional reason that the proposed combination of Shuy, Sakaue and Takaoka does not disclose, teach, or suggest “a second dielectric film located on an opposite side of the light incidence plane with respect to the at least one recording film and having a lower thermal conductivity than that of the first dielectric film.” In particular, Sakaue, relied upon in the Office Action to supply this teaching, does not disclose, teach, or suggest such a second dielectric film.

As set forth above, in Sakaue, the first dielectric layer 12 is a ZnS-SiO₂ film, and the second dielectric layer 16 may comprise a nitrooxide of Ta. Sakaue further discloses that “nitrooxides of Ta have substantially the same optical constants as ZnS-SiO₂ and their thermal conductivity is better than that of ZnS-SiO₂ (i.e. they have better heat releasing ability).” Paragraph [0037]. Thus, in Sakaue, the second dielectric layer 16 (located on the opposite side of the light incidence plane with respect to the recording layer 14) has a higher thermal conductivity than the first dielectric layer 12.

In contrast, as claimed, the second dielectric film has a lower thermal conductivity than that of the first dielectric film. The second dielectric layer of Sakaue does not satisfy this limitation, and, for the same reasons discussed above, moving the nitrooxide of Ta

taught by Sakaue away from the reflective layer 17 would render this dielectric layer unsatisfactory for its intended purpose of preventing corrosion of the reflective layer 17. Thus, Sakaue does not disclose, teach or suggest “a second dielectric film located on an opposite side of the light incidence plane with respect to the at least one recording film and having a lower thermal conductivity than that of the first dielectric film.”

Since Shuy and Takaoka also fail to disclose, teach, or suggest the claimed second dielectric film, it is respectfully submitted that the rejection of claim 1 over Shuy in view of Sakaue and Takaoka is improper.

Plurality of Information Recording Layers

Claim 1, as amended, is also allowable for at least the additional reason that the proposed combination of Shuy, Sakaue and Takaoka does not disclose, teach, or suggest “a plurality of information recording layers between the substrate and the protective layer which are laminated via at least one intermediate transparent layer and capable of recording data in the plurality of information recording layers and reproducing data recorded in the plurality of information recording layers by projecting a laser beam via a light incidence plane constituted by one surface of the substrate or one surface of the protective layer onto the plurality of information recording layers.” In particular, Takaoka, relied upon in the Office Action to supply this teaching, does not disclose, teach, or suggest the claimed plurality of information recording layers.

It is respectfully submitted that claim 1 as previously pending was patentably distinguished over Shuy, Sakaue, and Takaoka, or any combination thereof. Claim 1, however, has been amended in order to clarify the features contained therein. These claim amendments are not made for patentability purposes but rather to facilitate prosecution, and it is believed that the claim would satisfy the statutory requirements for patentability without the entry of such amendments.

Figures 9 and 10 of Takaoka disclose two single-sided memory optical disks bonded using a bonding agent 21 to provide a “double-sided memory optical disk.” See

Takaoka, col. 4, ll. 60-64. Thus, Takaoka teaches double-sided optical disks having two light incidence planes defined by the transparent substrates 11 on either side of Figures 9 and 10.

Claim 1 recites “recording . . . and reproducing data . . . by projecting a laser beam via a light incidence plane . . . onto the plurality of information recording layers.” Takaoka does not teach recording to a plurality of information recording layers using a single light incidence plane, but instead teaches two light incidence planes corresponding to the two sides of the double sided optical disk. Claim 1 further recites “a plurality of information recording layers. . . which are laminated via at least one intermediate transparent layer.” Takaoka does not disclose, teach, or suggest that the bonding agent 21 is transparent, nor does Takaoka teach another intermediate transparent layer.

Since Shuy and Sakaue also fail to disclose, teach, or suggest the claimed plurality of information recording layers, it is respectfully submitted that the rejection of claim 1 over Shuy in view of Sakaue and Takaoka is improper.

Claims 2-3, 7, 10, 13, 16, 19, 22 and 25 which depend from claim 1, are believed to be patentable for the same reasons articulated above with respect to claim 1, and because of the additional features recited therein.

For example, claim 10 recites “the second recording film contain[ing] Cu as the primary component.” The Office Action asserts that the use of Cu for the second recording film would have been obvious in light of the teachings of Shuy and Takaoka. Yet, mention of the use of Cu is nowhere to be found in Takaoka, and there is only a suggestion to use Cu in the reflecting layer 40 of Shuy, not in a recording layer. *See* Shuy, paragraph [0027]. For at least this additional reason, it is respectfully submitted that the rejection of claim 10 over Shuy in view of Sakaue and Takaoka is improper.

Double-Patenting Rejections

Various double-patenting rejections were set forth in the present Office Action. In view of the amendments to the claims, it is respectfully submitted that these double-patenting rejections may have been rendered moot.

CONCLUSION

In light of the above amendments and remarks, the present application is believed to be in condition for allowance, and such allowance is respectfully requested. If further issues remain, the Applicants' undersigned attorney of record hereby formally requests a telephone interview with the Examiner. The Applicants' attorney can be reached at (206) 694-4807 or at the number listed below.

Respectfully submitted,
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